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A FOSSIL STARFISH FROM THE CRETACEOUS OF WYOMING

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A specimen of a fossil starfish has recently been presented to the Walker Museum of the University of Chicago, by Mr. N. H. Brown, of Lander, Wyo. The specimen is preserved in a fine-grained, light yellow sandstone from near the summit of the Upper Cretaceous which may be referred to the Fox Hills formation. Though all the characters desirable for the classification of the specimen are not perfectly preserved, yet there is justification in the description of such a specimen because of the extreme rarity of such fossils in the Cretaceous faunas of America, and because it is probably the best specimen of a Cretaceous fossil starfish yet found in America; at least no specimen so nearly complete has been mentioned in the literature.

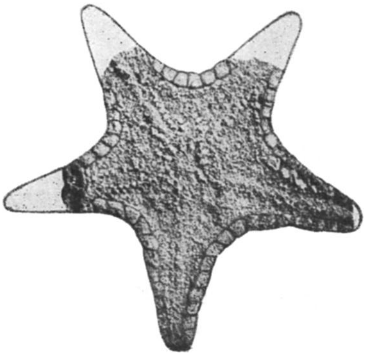
FIG. 1.

The specimen is apparently exposed from its dorsal side, but, apart from the large marginal plates, all the plates of this surface have been destroyed. The impressions of the ambulacral furrows of the ventral surface are exposed by the weathering away of the dorsal surface, and appear as rounded, slightly elevated ridges extending from the arm tips to the center of the disk; but the characters of the ambulacra are not sufficiently well preserved to be accurately determined.

The presence of highly developed marginal plates upon the specimen mark it at once as a member of the order *Phanerozonia*, and it may be placed, without serious question, in the family *Pentagonasteridae*. The reference of the specimen to its proper genus is less satisfactory, but it seems to agree more closely with *Pentagonaster* than with any other, although the interradial arcs are somewhat deeper than is usual in that genus. In the recent species *P. arcuatus* Sladen,[1] however, these arcs are nearly as deep as in the fossil specimen, the proportion between the minor and major radii being 1 to 1.93, while in the fossil specimen it is 1 to 2.08.

The specimen also more or less closely resembles, in the characters which are preserved, some of the recent species of *Gnathaster*, a genus also belonging to the family *Pentagonasteridae*, in which the interradial arcs are often much deeper than in *Pentagonaster*, in *G. elongatus* Sladen,[2] the proportion of the minor to the major radii being 1 to 3.5. This genus, however, is usually characterized by the presence of an odd interradial marginal plate—a character not clearly shown in the fossil specimen. In one of the interrays such a plate seems to be present, but in the others not. For the present, therefore, the specimen may be referred to the genus *Pentagonaster.*

Pentagonaster browni *n. sp.*

(Fig. 1)

Description: Stellato-pentagonal in outline, major radius 24^{mm}, minor radius 11.5^{mm}. Disk large, apparently flat. Interradial arcs broadly rounded, the rays elongate for the genus, rounded at their extremities. Marginal plates large, about sixteen occupying each interradial arc from tip to tip of adjacent rays, the character of their ornamentation not preserved.

Horizon and locality: Fox Hills sandstone, S. E. ¼, Sec. 16, T. 32, R. 99, near Lander, Wyo.

Type specimen: Paleontological Collection, Walker Museum, No. 10725.

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[1] *Challenger Reports*, Zoölogy, XXX, p. 277, Plate 52, Figs. 1, 2.

[2] *Ibid.*, p. 288, Plate 48, Figs. 1, 2.